



State of Utah

DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER QUALITY

m/037/088

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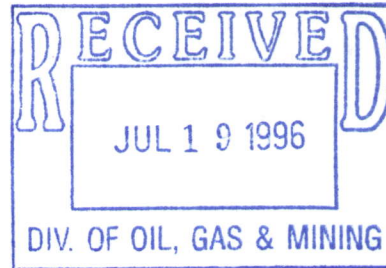
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July 15, 1996

Kate Kitchell, Moab District Manager
Bureau of Land Management
82 East Dogwood Avenue
Moab, Utah 84532

Dear Ms. Kitchell:

Subject: Lisbon Valley Copper Project - Draft Environmental Impact Statement Comments

Enclosed, please find our agency's comments regarding the draft EIS for the Lisbon Valley Copper Project. As an agency that will be directly involved in overseeing aspects of this project for at least the next 15 years, we appreciate this opportunity to submit comments to your agency. We hope our comments will be of benefit to your agency in issuing a final record of decision. Our comments should in no way be construed as being in opposition to this project. Rather we forward these comments to your agency in order that this project might proceed in the most intelligent and environmentally sensitive manner possible. These comments were prepared, for the most part, by Dennis Frederick of my staff and any questions concerning them should first be directed to him.

Sincerely,

Utah Water Quality Board

Don A. Ostler, P.E.
Executive Secretary

DAO:DAF:wfm

cc: Tony Gallegos, DOGM (w/enc)
Dave Arioti, Southeast Area Engineer (w/enc)
Robert Prescott, Summo USA Corporation (w/enc)
Pat Gochnour, Gochnour & Associates (w/enc)

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Division of Water Quality

Draft EIS Comments:

Lisbon Valley Copper Project

July 15, 1996

DWQ Project Authorities

The Division of Water Quality will issue Ground Water Quality Discharge and Storm Water Permits for the Lisbon Valley Project. A Construction Permit for the proposed septic system may also be required. Construction requirements for the heap leach liner, solution and storm water ponds, solution pipelines and containment of process fluids in the EW/SW plant will be incorporated into the Ground Water Permit as Best Available Technology (BAT) requirements.

Storm Water

The draft-EIS fails to adequately address state storm water permitting issues. Table 1-1 does not specifically list the requirement for a Storm Water Discharge Permit. This permit must be obtained from our office and not the EPA since the NPDES program including storm water is a state delegated program in Utah. A major concern is the proposal to use pit dewatering water (ground water) for dust suppression at the facility. Samples of ground water throughout the facility contain elevated levels of alpha and beta particles. The ground water may also contain uranium, thorium and radium. These contaminants may be mobilized during runoff events (precipitation or snow melt). These contaminants might also be contained in runoff sediments. Unless it can be demonstrated that concentrations of these contaminants in storm water leaving the mine site will not adversely effect surface water quality nor exceed EPA defined BAT or BPT, as per 40 CFR 440.32, the use of ground water for dust suppression would not be appropriate. Based on the information available in the EIS we have serious reservations concerning the potential degradation that might be caused. We recommend that the BLM include in the preferred alternative, for the final EIS, an alternative dust suppression strategy that utilizes uncontaminated water from an alternative source.

Our second concern is the company's proposal to locate Waste Rock Dump D in the drainage above Lisbon Canyon. The problems associated with permanently maintaining drainage around this waste dump and precluding the erosion of the dump into the water course make the proposed location of this dump inappropriate. We support the BLM's preferred alternative to not allow the creation of a waste dump in this location.

A final concern is that south west portions of Dump A may be susceptible to run-on of storm water which could cause erosion or unnecessary infiltration of water through the waste rock resulting in discharge from the waste pile.

Surface Water Recharge of Ground Water at the Sentinel Pit

There are two cases in the proposed action for the post mining disposition of surface water runoff from the upper Lisbon Valley and Little Valley. The first case allows runoff water (177 acre feet per year) to flow directly into the Sentinel #1 pit. The introduction of this additional water to the Sentinel Pit is predicted to increase the depth of the post mining Sentinel #1 pit lake about 170 feet. Without this runoff the Sentinel #1 pit lake will only contain infiltrating ground water and direct precipitation and would have a depth of 110 feet. Ground water is modeled to be interconnected between the Sentinel #1 Pit and the Centennial Pit. Thus the model predicts that surface water recharge to the Sentinel #1 Pit would cause the creation of an additional pit lake in the Centennial Pit with a depth of 106 feet. The GTO pit which is the furthest down gradient pit is modeled to be interconnected to the Centennial Pit and the recharge at the Sentinel #1 Pit eventually increases the predicted depth of the GTO pit lake 65 feet. The draft EIS recognizes that these pit lakes may potentially lead to the degradation of ground water resources down gradient from the mine. The additional water resulting from surface flows into the Sentinel #1 Pit will drive the system by increasing the gradients in the flow system. It is therefore best to avoid the creation of an additional pit lake and to maintain other pit lakes at lower levels by not allowing surface runoff to enter the Sentinel #1 Pit. We therefore recommend the Proposed Action - Case 2 - No Post-Mining Recharge of Surface Water to Ground Water at the Sentinel Pit.

Long Term Pit Lake Ground Water Impacts Down gradient of the GTO Pit

Unlike the Sentinel and the Centennial Pits, the GTO Pit will have significant portions of Cutler formation exposed below the water level in the pit lake. The hydrologic evaluation of the EIS assumed a no flow boundary between the mineralized zones east of the fault and the Cutler formation west of the fault. With the Cutler formation exposed following mining, the potential exists that pit lake water will act as recharge to the Cutler. No data exists concerning the presence or absence of ground water in the Cutler formation at elevations between the GTO pit lake floor and predicted equilibrium GTO pit lake surface level. If there is in fact a no flow boundary in the premining scenario, this barrier may not exist following mining. Thus ground water could seep into the Cutler formation from the pit lake potentially impacting ground water resources.

To the east of the Lisbon fault in the area of the GTO pit water occurs primarily in the Mancos Shale with some also in Dakota and Burro Canyon formations. The underlying Morrison formation may also contain ground water. It is not clear how much inter-connection exists

between ground water in these formations. East of the Lisbon fault, the floor of the lake bottom will be in the lower Burro Canyon and Morrison formations. It is therefore possible that water from the Mancos Shale will provide recharge to the lower Burro Canyon and Morrison formations. The draft EIS does not present any data on the ground water quality in the Burro Canyon and Morrison formation. Because water from the Mancos Shale is of relatively poor quality this may have negative consequences for ground water in the Burro Canyon and Morrison formations.

In summary the draft EIS does not address the possibility that the GTO pit may create new preferential pathways for the flow of ground water from shallow perched zones to deeper formations. The perched water is of relatively poor quality to begin with and it is expected to evapo-concentrate. In this regard the draft EIS appears to fall short in adequately studying the risks to ground water from the proposed action. These same types of concerns would also apply to the Sentinel #1 and Centennial pits. The discussion above focused on the GTO Pit since it is the furthest down gradient pit.

If the proposed action is to proceed without an adequate study of these issues, then long term ground water and pit lake monitoring should be required so that potential adverse impacts can be identified early in the post mining phase and remediated if necessary.

Waste Rock Selective Handling Alternative

We urge the BLM to include the Waste Rock Selective Handling Alternative in the agency's preferred alternative for the final EIS. This alternative should preclude the possibility of future acid mine drainage from the waste rock dumps. Because the majority of the acid bearing waste rock can be identified by color, this alternative does not impose a significant burden on the mine operator and should be required as a matter of sensible pollution prevention management. The mine plan presented in the ground water permit application and the plan of operations submitted to the DOGM must contain a Best Management Plan (BMP) for the selective handling of this waste that insures no significant degradation occurs to either ground water or surface water resources. Otherwise, more conservatively designed facilities may be required for their disposal.

Little Valley Ground Water Monitoring

On page 4-22 the BLM recommends further mitigation measures including the drilling of additional bore holes in the area down gradient of the leach pad (Little Valley). The object would be to determine the depth to ground water and to possibly develop monitoring wells. The DWQ has already indicated to Summo that the above will be a requirement of the ground water permit (Correspondence to Gochnour, June 13, 1996). It would thereby be appropriate for the BLM to include this mitigation measure in the final EIS as a agency preferred alternative.

Leach Pad Liner Configuration

The liner system as proposed is inadequate in that the wick drain and geotextile fabric will not be effective in conveying liner leakage to an appropriate collection system. The project proponent has been made aware of our position in this matter (Correspondence to Welsh, April 12, 1996). We have discussed an alternative with the proponent but have yet to receive a formal proposal from them in this regard. We recommend that the final EIS contain the leakage collection design that will be incorporated as part of the Ground Water Permit application assuming that proposal is made in time for inclusion in that report.

Septic Tank/ Drain Field

Table 1-1 does not list the requirement that a permit be obtained from either the local health department or the Division of Water Quality to install septic systems. If the expected flows to the septic system are less than 5000 gal per day a local permit is required. If the expected flows are greater than 5000 gal per day a construction permit must be obtained from the Division of Water Quality. Flows must be determined by utilizing the criteria found in sections R317-501 to R317-513 of the Utah Administrative Code. Further questions or inquiries may be directed to Mr. John Kennington of the Division of Water Quality at 801-538-6146.

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